

(No Model.)

F. W. STARR.

METALLIC FASTENING DEVICE.

No. 396,900.

Patented Jan. 29, 1889.

Fig. 1.

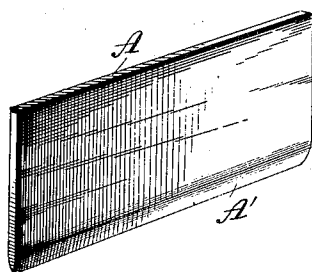


Fig. 2.

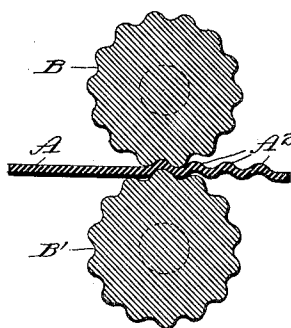


Fig. 3.

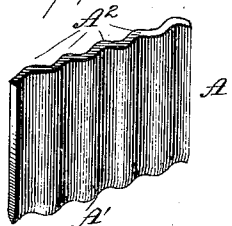


Fig. 4.

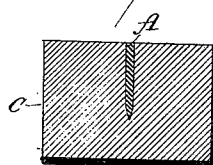


Fig. 5.

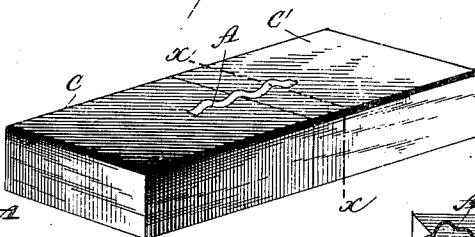


Fig. 6.

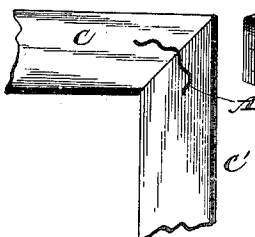
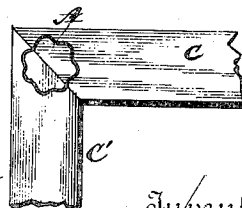


Fig. 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

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METALLIC FASTENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 396,900, dated January 29, 1889.

Application filed January 17, 1888. Serial No. 260,987. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND W. STARR, a citizen of the United States, residing at Springfield, in the county of Clark, State of Ohio, have invented certain new and useful Improvements in Nail or Securing Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to nails; and among the objects in view are to provide a nail or securing device having a series of corrugations adapted to be driven in wood either across the grain thereof, for preventing splitting or warping, or laterally securing together boards, planks, &c., or for strengthening or fastening together wooden joints generally where the said securing device can be made applicable, whether used in combination with the ordinary nail, screw, bolt, or nut, or to be driven with the grain for the purpose of connecting and forming joints between two meeting ends of rails, rods, planks, &c.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a nail-blank after having undergone the first step of its formation. Fig. 2 shows the second step or manner of forming the corrugations. Fig. 3 is a perspective of a completed article. Figs. 4 and 5 are illustrations of the manner of applying the invention, the former figure being a transverse section of the latter. Figs. 6 and 7 are plans of a miter-joint connected by a nail or device constructed in conformity with my invention, said devices being modified for the purpose in view.

Like letters of reference indicate like parts in all the figures of the drawings.

In carrying out my invention, and as a preferred form of manufacturing the same, I take a plate, (see Fig. 1,) which may be of iron or malleable steel or any other suitable material, and of any length or width desired, which plate is sharpened or beveled at what will be its driving-edge, as shown at A'. The plate or strip thus formed is then preferably passed between a pair of corrugated rolls, B B', by

which is formed the corrugations A² transversely in said plate. (See Fig. 2.) The strip thus formed—viz., sharpened at its edge and corrugated throughout its length—is now, by suitable cutters, severed into desired lengths for different purposes, the purpose for which it is to be employed determining its length and also, it may be stated, the width thereof; or it may be bundled, packed, or rolled, and afterward cut by the user.

A, Fig. 1, represents the completed article, which in practice may have more or less corrugations, and it may be driven, like an ordinary nail, either crosswise the grain, to prevent splitting, for securing joints, or, as shown in Fig. 5, lengthwise the grain, forming a joint smooth and flat between the connecting ends of two rails, rods, &c., C C'.

As shown in Figs. 6 and 7, the device may be also used at the corners of boxes where the edges of the meeting walls are formed with miter or other forms of joints. In this instance it may be preferable to form the nail either in a semicircle, as shown in Fig. 6, or by forming a complete cylinder. In all cases, however, a portion of the nail is seated in the wood at each side of the joint, whereby a snug, strong, and durable joint is formed, and that without splitting, marring, or injuring in any way the surface of the wood. Other forms of nail may be found preferable for securing together or strengthening different kinds of joints, and in this regard I do not limit my invention.

The advantage arising from corrugating the nail, by which is meant forming the securing device with a series of body corrugations and imparting to it a zigzag driving-edge, is at once apparent, in that said corrugations will take into and form corresponding corrugations in the wood in which the nail is driven, thus preventing the wood from splitting and the withdrawal of the nail or breakage of the joint formed thereby.

I am aware that nails or spikes have been provided with fins or ribs or corrugations; but it will be apparent that the corrugations, wrinkles, or ribs formed on my securing device serve purposes and attain results peculiar to my invention, viz: first, preventing the wood from splitting and warping when driven

in it crosswise and edgewise of the wood, thus interlocking with the series of ribs or corrugations formed on the securing device or nail; second, in applying the device for purposes of securing together or strengthening joints it is driven into the contiguous ends or sides simultaneously and at right angles to the mode employed in fastening joints with ordinary nails, bolts, or screws; and thus it will be seen that the principle involved in my invention, whether considered as to its application and use, or considered in relation to force tending to draw a joint formed thereby apart, materially differs from nails or fastenings heretofore used.

Nails or spikes have heretofore been provided with fins, ribs, or corrugations; but the same have been merely superficial. In my invention, however, the corrugations are formed bodily or through and through, so that a corrugation or depression upon one side of the nail will form a protuberance or rib upon the opposite side, and these protu-

berances or ribs will alternate with the depression upon each side of the nail.

Having described my invention, what I claim is—

1. A fastening device having substantially parallel sides, a corrugated body, and parallel zigzag driving and entering edges, substantially as specified.

2. A strip adapted to be cut into fastening devices, the latter having opposite zigzag parallel edges, one of which is beveled, and a series of corrugations extending from one edge to the other, substantially as specified.

3. A fastening device having a corrugated body and zigzag entering edge, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

FERDINAND W. STARR.

Witnesses:

OSCAR T. MARTIN,
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